

WHAT IS CLAIMED IS:

1. An electronic system comprising:
an enclosure; and
a backplane coupled inside the enclosure and having a plurality of slots capable of receiving a plurality of modules, the modules including power modules, cooling modules, and function modules being capable of plug insertion into a backplane slot, the backplane receiving power and signal connections from external to the enclosure via the modules rather than internal cabling.
2. The electronic system according to Claim 1 further comprising:
a plenum airspace including an input plenum and an output plenum.
3. The electronic system according to Claim 2 further comprising:
a cooling module plug inserted into a backplane slot adjacent to the plenum airspace.
4. The electronic system according to Claim 2 further comprising:
at least one module including power modules and function modules, and having
an unobstructed airway between the input plenum and the output plenum.
5. The electronic system according to Claim 1 further comprising:
at least one module including power modules and function modules having a substantially common height and depth and being an integral number of slots wide to enable both a flexible number and type of module within the enclosure, the power modules and function modules being capable of plug insertion into the same backplane slots.

6. The electronic system according to Claim 5 further comprising:
at least one power module plug inserted into at least one backplane slot and
having a power inlet for receiving system power in a configuration for
alternating current (AC) power and direct current (DC) power, the at least
one power module having a height and depth substantially common with
the height and depth of function modules and being capable of plug
insertion into backplane slots in common with function modules.
7. The electronic system according to Claim 5 further comprising:
at least one display and control module plug inserted into at least one backplane
slot and comprising a user interface for display and input functionality, the
at least one display and control module having a height and depth
substantially common with the height and depth of function modules and
being capable of plug insertion into backplane slots in common with other
function modules and power modules.
8. The electronic system according to Claim 1 further comprising:
at least one function module plug inserted into at least one backplane slot, the
function modules being selected from among a group comprising graphics
modules, input/output (I/O) modules, Uninterrupted Power Supply (UPS)
modules, storage modules, server modules, switch modules, processor
modules, memory modules, and combinational modules combining
functionality of a plurality of function modules.
9. An electronic system comprising:
an enclosure; and
a backplane having first and second planar sides, the backplane intersecting the
enclosure and having a plurality of slots on both the first and second planar
sides capable of receiving a plurality of modules, the modules including a
plurality of module types and functionalities, the backplane receiving
power and signal connections from external to the enclosure via the
modules rather than internal cabling.

10. The electronic system according to Claim 9 wherein:
the modules include power modules and function modules with substantially
common height and depth and being an integral number of slots wide.
11. The electronic system according to Claim 9 further comprising:
a first plenum airspace on a first end of the backplane and a second plenum
airspace on a second end of the backplane, the first plenum including an
input plenum and an output plenum so that cooling air circulates from the
input plenum through modules on the first side of the backplane, through
the second plenum, through modules on the second side of the backplane,
and to the output plenum.
12. The electronic system according to Claim 10 further comprising:
at least one cooling module plug inserted into a backplane slot of the plurality of
backplane slots adjacent to the first plenum airspace.
13. The electronic system according to Claim 9 further comprising:
a plurality of modules including power modules and function modules arranged in
slots inserted into the first and second sides of the backplane, and having
an unobstructed airway between the input plenum and the output plenum,
the power modules and function modules being capable of plug insertion
into the same backplane slots.
14. The electronic system according to Claim 9 further comprising:
at least one power module plug inserted into at least one backplane slot and
having a power inlet for receiving system power in a configuration for
alternating current (AC) power and direct current (DC) power, the at least
one power module having a height and depth substantially common with
the height and depth of function modules and being capable of plug
insertion into backplane slots in common with the function modules.

15. The electronic system according to Claim 9 further comprising:
at least one display and control module plug inserted into at least one backplane slot and comprising a user interface for display and input functionality, the
at least one display and control module having a height and depth
substantially common with the height and depth of function modules.
16. The electronic system according to Claim 9 further comprising:
at least one function module plug inserted into at least one backplane slot, the
function modules being selected from among a group comprising graphics
modules, input/output (I/O) modules, Uninterrupted Power Supply (UPS)
modules, storage modules, server modules, switch modules, processor
modules, memory modules, and combinational modules combining
functionality of a plurality of function modules.
17. An electronic system comprising:
an enclosure;
a backplane having first and second planar sides, the backplane intersecting the
enclosure and having a plurality of slots on both the first and second planar
sides capable of receiving a plurality of modules, the backplane receiving
power and signal connections from external to the enclosure via the
modules rather than internal cabling; and
a first plenum airspace on a first end of the backplane and a second plenum
airspace on a second end of the backplane, the first plenum including an
input plenum and an output plenum so that cooling air circulates from the
input plenum through modules on the first side of the backplane, through
the second plenum, through modules on the second side of the backplane,
and to the output plenum.
18. The electronic system according to Claim 17 further comprising:
at least one cooling module plug inserted into a backplane slot adjacent to the first
plenum airspace.

19. The electronic system according to Claim 17 further comprising:
first and second cooling modules plug inserted into respective first side and
second side backplane slots adjacent to the input plenum and the output
plenum, respectively, and arranged in a push-pull configuration.
20. The electronic system according to Claim 17 further comprising:
a plurality of modules including power modules and function modules arranged in
slots inserted into the first and second sides of the backplane, the modules
further comprising:
an unobstructed airway between the input plenum and the output plenum;
and
at least one status light-emitting diode (LED) coupled a display panel on
the enclosure adjacent the module.
21. The electronic system according to Claim 17 further comprising:
at least one power module plug inserted into at least one backplane slot and
having a power inlet for receiving system power in a configuration for
alternating current (AC) power and direct current (DC) power, the at least
one power module having a height and depth substantially common with
the height and depth of function modules, and capability of insertion into
backplane slots in common with the function modules.
22. The electronic system according to Claim 17 further comprising:
at least one display and control module plug inserted into at least one backplane
slot and comprising a user interface for display and input functionality, the
at least one display and control module having a height and depth
substantially common with the height and depth of function modules.

23. The electronic system according to Claim 17 further comprising:
at least one function module plug inserted into at least one backplane slot, the
function modules being selected from among a group comprising graphics
modules, input/output (I/O) modules, Uninterrupted Power Supply (UPS)
modules, storage modules, server modules, switch modules, processor
modules, memory modules, and combinational modules combining
functionality of a plurality of function modules.

24. An electronic system comprising:
means for enclosing a plurality of electronics components;
multiple means for electronically performing a function, ones of the multiple
performing means being capable of performing functions selected from
among a plurality of types and functions, the multiple performing means
having a substantially common height and depth, and being an integral
number of slots wide, enabling construction of a wide range of system
configurations in terms of module function types and module function
redundancy from a single set of modules and a single enclosure;
means for inserting and holding the multiple performing means, the inserting and
holding means intersecting the enclosing means and being supplied with
power and signal connections via the multiple function performing means
rather than cabling; and
means for cooling interior to the enclosing means by circulating air around the
inserting and holding means and through the multiple performing means.